

WHAT IS CLAIMED IS:

1. A method for classifying facial images from a partial view of a facial image, the method comprising the steps of:

a) training a classifier device for recognizing facial images, said classifier device being trained with input data associated with a facial image of a subject;

b) detecting a partial view of a subject's facial image; and,

c) warping said partial view of the subject's facial image onto a frontal image to obtain a warped image of said subject; and,

d) classifying said warped image according to a classification method performed by said trained classifier device.

2. The method of claim 1, wherein said obtaining step b), includes the step of implementing a face detection algorithm.

3. The method of claim 1, wherein said warping step c) comprises the steps of:

finding a head pose of said detected partial view;

defining a generic head model and rotating said generic head model (GHM) so that it has the same orientation as the given face image;

translating and scaling said GHM so that one or more features of said GHM coincide with the given face image

recreating said image to obtain a frontal view of the face.

4. The method of claim 3, wherein said step of finding a head pose of said detected partial view comprises the step of implementing an algorithm to find a head pose from a minimal number of point matches.

5. The method of claim 4, wherein said algorithm comprises a four-point algorithm wherein the minimal number of match points is four.

6. The method of claim 4, further including the step of modifying said GHM so that other detectable features of said GHM correspond to those on the given face image.

7. The method of claim 6, wherein said detectable features of said GHM includes one or more of mouth features, nostrils, tip of the nose, ear features, eye brows.

8. The method of claim 6, wherein said image recreating step includes the step of utilizing view morphing techniques to recreate a partial face view, said

partial face view comprising said warped image to be classified.

9. The method of claim 1, wherein said classifying step d) includes implementing a Radial Basis Function Network.

10. An apparatus for classifying facial images from a partial view of a facial image, the apparatus comprising:

a) a classifier device for recognizing facial images, said classifier device being trained with input data associated with a facial image of a subject;

b) mechanism for obtain a warped image of said subject, said mechanism including detecting a partial view of a subject's facial image and warping said partial view of the subject's facial image onto a frontal image of said subject; wherein said warped image is input to said trained classifier device for classifying said warped image.

11. A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for classifying facial images from a partial view of a facial image, the method comprising the steps of:

a) training a classifier device for recognizing facial images, said classifier device being trained with input data associated with a facial image of a subject;

- b) detecting a partial view of a subject's facial image; and,
 - c) warping said partial view of the subject's facial image onto a frontal image to obtain a warped image of said subject; and,
 - d) classifying said warped image according to a classification method performed by said trained classifier device.